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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,959	11/05/2001	Todd D. Creger	00-608	2767

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EXAMINER	
DAY, HERNG DER	

ART UNIT	PAPER NUMBER
2128	

MAIL DATE	DELIVERY MODE
12/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/006,959	CREGER ET AL.	
	Examiner	Art Unit	
	Herng-der Day	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20071210*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to Applicants' RCE and Amendment ("Amendment") to BPAI Decision dated July 31, 2007, filed September 27, 2007.

1-1. Claims 1, 7, and 10 have been amended. Claims 1-12 are pending.

1-2. Claims 1-12 have been examined and rejected.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3-1. Claim 7 recites the limitation "the neural network model" in line 11 of the claim. It is indefinite because it is unclear whether "the neural network model" is referred to the "separate neural network model" as recited in line 6 or the delivered "neural network model" as recited in line 5. For the purpose of claim examination, the Examiner will presume that "the neural network model" refers to the delivered "neural network model".

3-2. Claims 8-9 are rejected as being dependent on a rejected claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Quist et al., U.S. Patent 6,199,018 issued March 6, 2001 and filed March 4, 1998.

5-1. Regarding claim 1, Quist et al. disclose a method for compensating for variations in modeled parameters of a plurality of machines having similar characteristics and performing similar operations, including the steps of:

establishing a model development machine having a first at least one model to predict a machine parameter (the weight parameters obtained when the laboratory data is used to train the global neural network may be valid for the laboratory tested motors, column 18, lines 32-37; The site processor 14 will include a data processor running one or more global neural networks for, e.g., predicting the expected life of machine 11, column 19, lines 1-3);

establishing at least one test machine having a second at least one model to predict the machine parameter, the test machine being different from the model development machine (one or more local predictive routines may use that data to provide diagnostic information concerning the appropriate machine 11, column 16, lines 63-65; utilizes a local neural network, ... and provides as outputs an indication of the expected life of the motor bearings, column 17, lines 1-10);

obtaining data relevant to predicting the machine parameter on the at least one test machine and relevant to the characteristics and operations of the at least one test machine (the microprocessor 28 is adapted to receive as inputs information provided from a sensor set that is adapted to sense various operating parameters of the machine 11, column 8, lines 14-18);

comparing the data from the at least one test machine to corresponding data of the model development machine (each global neural network running on site processor 14 will have weighting parameters that are initially determined from accelerated testing data but that are refined, over time, in response to actual field collected data, column 19, lines 11-15); and

updating at least one of an estimator and a model of each at least one test machine in response to variations in the compared data (These globally updated weighting parameters may then be downloaded to the local monitoring devices, column 19, lines 15-19).

5-2. Regarding claim 2, Quist et al. further disclose wherein each of the model development machine and the at least one test machine includes a neural network for modeling a parameter of each respective machine (The site processor 14 will include a data processor running one or more global neural networks, column 19, lines 1-3; each of the local monitoring devices 12 will include a microprocessor running a local predictive neural network, column 18, lines 51-56), and wherein updating at least one of an estimator and a model includes the step of updating an estimator for each neural network in response to variations in the compared data (These globally updated weighting parameters may then be downloaded to the local monitoring devices, column 19, lines 15-19; update one output weighting parameter).

5-3. Regarding claim 3, Quist et al. further disclose wherein each of the model development machine and the at least one test machine includes a neural network for modeling a parameter of

each respective machine (The site processor 14 will include a data processor running one or more global neural networks, column 19, lines 1-3; each of the local monitoring devices 12 will include a microprocessor running a local predictive neural network, column 18, lines 51-56), and wherein updating at least one of an estimator and a model includes the step of updating each neural network in response to variations in the compared data (These globally updated weighting parameters may then be downloaded to the local monitoring devices, column 19, lines 15-19).

5-4. Regarding claim 4, Quist et al. further disclose wherein obtaining data includes the step of obtaining data from each test machine relevant to operating characteristics of each respective test machine (the microprocessor 28 is adapted to receive as inputs information provided from a sensor set that is adapted to sense various operating parameters of the machine 11, column 8, lines 14-18).

5-5. Regarding claim 5, Quist et al. further disclose wherein obtaining data includes the step of obtaining data from a work site in which a respective test machine is located, the data including data relevant to characteristics of the work site and operations of the test machine at the work site (the other RTD transducers are positioned to detect the temperature of the windings of machine 11, the temperature of the machine housing, and/or the temperature of the environment in which machine 11 is operating, column 8, lines 19-26).

5-6. Regarding claim 6, Quist et al. further disclose wherein obtaining data includes the step of obtaining data relevant to aging of each test machine (Another important operating parameter that may be monitored by the local monitoring device 12 is the total elapsed running time of the electric machine, column 16, lines 55-60).

5-7. Regarding claim 7, Quist et al. disclose a method for compensating for variations in modeled parameters of a test machine compared to a model development machine, the test machine being different from the model development machine, including the steps of:

delivering a neural network model from the model development machine to the test machine, the test machine having a separate neural network model (Once this global neural network is trained with the accelerated aging data, the resulting weighting parameters can be downloaded into the data storage devices 29 of each of the local monitoring devices, column 17, line 61 through column 18, line 10);

determining a computed parameter on the test machine (based on that information, provide local diagnostic information concerning the expected life of the machine, column 17, lines 1-5);

estimating the parameter on the test machine with the delivered neural network (predicting the expected life of machine 11, column 19, lines 1-3);

comparing the computed parameter with the estimated parameters (be adapted to receive the field-collected data from the local monitoring devices 12 and use such field collected data to update the weighting parameters, column 19, lines 3-11); and

updating at least one of an estimator and the neural network model on the test machine in response to variations in the computed parameter and the estimated parameter (These globally updated weighting parameters may then be downloaded to the local monitoring devices, column 19, lines 15-19).

5-8. Regarding claim 8, Quist et al. further disclose wherein determining a parameter includes the step of calculating the parameter (receives as inputs appropriate normalized bearing

temperature information and provides as outputs an indication of the expected life of the motor bearings, column 17, lines 5-10).

5-9. Regarding claim 9, Quist et al. further disclose wherein updating a neural network model includes the step of tuning at least one weight in the neural network model (In accordance with conventional neural network techniques the outputs from the input nodes are appropriately "weighted" such that the value of each output node will correspond generally to the sum of its weighted inputs, column 17, lines 16-22).

5-10. Regarding claim 10, Quist et al. disclose a method for compensating for variations in modeled parameters of a plurality of machines having similar characteristics and performing similar operations with the use of a computer having a processor, the plurality of machines including at least one model development machine and one test machine, including the steps of:

sensing data from each of the plurality of machines relevant to the modeled parameters, characteristics, and operations of each respective machine, the modeled parameters derived from a model developmental machine being different for each respective machine (the microprocessor 28 is adapted to receive as inputs information provided from a sensor set that is adapted to sense various operating parameters of the machine 11, column 8, lines 14-18);

transmitting the data to the processor (At certain intervals, the local monitoring devices 12 will provide this collected data (and data indicating when a machine 11 fails) to the site processor 14, column 18, lines 61-67);

determining a level of variability of the characteristics of each machine as a function of the data (to sense various operating parameters of the machine 11, column 8, lines 14-18; use these local parameters to generate "site-wide" updated parameters, column 5, lines 27-31);

determining a level of variability of the operations of each machine relevant to a respective work site as a function of the data (the temperature of the machine housing, and/or the temperature of the environment in which machine 11 is operating, column 8, lines 19-26; use these local parameters to generate "site-wide" updated parameters, column 5, lines 27-31);

determining an aging factor of each machine as a function of the data (Another important operating parameter that may be monitored by the local monitoring device 12 is the total elapsed running time of the electric machine, column 16, lines 55-60; use these local parameters to generate "site-wide" updated parameters, column 5, lines 27-31); and

updating at least one of an estimator and a model of each machine encoded in the computer in response to the level of variability of the characteristics of each machine, the level of variability of the operations of each machine relevant to each work site (These globally updated weighting parameters may then be downloaded to the local monitoring devices, column 19, lines 15-19).

5-11. Regarding claim 11, Quist et al. further disclose determining a level of variability of the operations of each machine relevant to a respective work site includes the step of determining a level of variability as a function of differences in characteristics between each work site (the temperature of the machine housing, and/or the temperature of the environment in which machine 11 is operating, column 8, lines 19-26; a global or super-global neural network may be able to develop weighting parameters that are specific to a particular environmental or load condition, column 19, lines 20-45).

5-12. Regarding claim 12, Quist further disclose determining an aging factor of each machine includes the step of determining a level of variability of operations of each machine as a function

of aging of each respective machine (Another important operating parameter that may be monitored by the local monitoring device 12 is the total elapsed running time of the electric machine, column 16, lines 55-60; The processor running the global or super-global neural network may then be able to take this information, develop specific weighting parameters for such machines, column 19, lines 20-45).

Applicants' Arguments

6. Applicants argue the following:

(1) "In a Decision of Appeal dated July 31, 2007, the Board of Patent Appeals and Interferences ("Board") affirmed these rejections. Applicant has amended independent claims 1, 7, and 10 and submits that these rejections are not sustainable for the reasons provided below." (page 7, paragraph 3, Amendment).

(2) "Jelley, Talbott, and Applicant's assertions, either alone or in combination, fail to disclose or suggest at least the above recitations of claims 1, 7, and 10." (page 9, paragraph 1, Amendment).

Response to Arguments

7. Applicants' arguments (1) and (2) have been fully considered but are moot in view of the new ground(s) of rejection. The rejection of claims 1-12 under 35 U.S.C. 102(e)/103(a) in the Office Action dated September 8, 2005, has been withdrawn.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Herng-der Day whose telephone number is (571) 272-3777. The Examiner can normally be reached on 9:00 - 17:30.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kamini S. Shah can be reached on (571) 272-2279. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Herng-der Day
December 11, 2007 H.D.

KAMINI SHAH
SUPERVISORY PATENT EXAMINER